

REMARKS/ARGUMENTS

The claims have been amended to overcome the Examiner's objections raised on formal grounds presented in paragraphs 1, 2 and 3 of the Office Action. In paragraph 3 of the Office Action, however, the Examiner asserted with respect to Claim 1, line 20, that the phrase "the most significant flaw" lacks antecedent basis. It is respectfully pointed out that this phrase has antecedent basis in line 16 of Claim 1 as now amended. The Examiner also asserted the phrase "the steam turbine" in Claim 8, (line 2) lacks antecedent basis. As now amended, that phrase can be found in the preamble of Claim 1 from which it depends. Similarly, the Examiner asserted in Claim 12, line 2 that the phrase "the steam turbine" lacks antecedent basis. This has been cured by pluralizing the word "turbine" which has antecedent basis in the preambles of Claims 1 and 12 which refer to the same turbines. Accordingly, the amendments and foregoing clarifications should overcome the Examiner's formal objections.

Claims 1-2 and 4-14 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent 6,487,922 (Bauer et al.). Bauer teaches a specific inspection apparatus for remote inspection of a trepan radius of the inner sleeve of a steam turbine. The apparatus employs immersion style ultrasonic transducers (Column 4, lines 19-20) and does not at all mention a linear phase array of ultrasonic transducers. While the reference does teach moving the transducers axially and rotating them circumferentially, the reference neither describes, teaches or shows the specific steps of conducting a first circumferential scan at a fixed axial location in combination with a second step of routing the linear phased array of ultrasonic transducers circumferentially around the fixed axial location where a most significant flaw was noted in the immediately preceding step and the a third step of successively focusing the linear phase array of ultrasonic transducers at different depths in the wall where the most significant flaw was noted to further characterize the depth and size of the flaw. As stated in *In re: Marshall* 578 F2d 301, 198 USPQ 344(CAFC 6/30/78) "to constitute an anticipation, all material elements recited in a claim must be found in one unit of prior art ... an accidental or unwitting duplication of an invention cannot constitute anticipation." In this instance, Bauer et al. neither describes, teaches or shows a number of the steps of Applicant's claims, as noted above. Furthermore, as also

noted above, Bauer et al. neither describes, teaches or shows the use of a linear phased array of ultrasonic transducers.

The referenced section that the Examiner refers to at Column 3, line 64 to Column 6, line 65 neither describes nor teaches the distinguishing features of Applicant's claims noted above. The citation to Column 3, lines 9-13 merely refers to remotely and selectively moving the transducer relative to the inspection section and the remaining reference to Column 4, line 6-35 merely states that known ultrasonic testing techniques may be used for measuring wall thickness and that ultrasonic transducers are preferred. However, electromagnetic acoustic transducers and eddy current transducers may be employed as well. Neither of these sections describe, teach or show the missing claim elements noted above.

Additionally, while Bauer et al., in the background of the application in Column 2, starting at line 24, teaches that magnetic rubber nondestructive examination is known, it does not describe, teach or show employing magnetic rubber nondestructive examination in combination with phased array ultrasonic examination over the selective areas that the phased array identified as flawed. For this further reason, Claim 7 of the instant Application patentably distinguishes over the reference. Similarly, Bauer et al. does not teach moving the linear phased array to a new radial location as described in Claim 11; nor does it teach reflecting signals from the phased array of ultrasonic transducers off of an inside wall of the main steam inlet nozzle sleeve to the trepan region as called for in Applicant's Claim 12. Accordingly, these latter claims further distinguish for the individual limitations that they introduce.

In section 6 of the Office Action, Claims 1-2, 4-6, 8, 11 are rejected under 35 U.S.C. § 102(b) as being anticipated by either U.S. Patent 4,597,294 (Brill, III et al.) or U.S. Patent 4,663,727 (Saporito et al.). Both Brill, III et al. and Saporito et al. describe nuclear steam generator inspection systems. While each employs an ultrasonic probe, neither describes, teaches or shows using a phased array of ultrasonic transducers. Furthermore, neither reference describes, teaches or shows the steps noted above, that Bauer et al failed to teach. In fact, Saporito et al. and Brill, III et al. teach a spiral

inspection path. And Brill, III et al. senses for tube wall thickness, not flaws.

Accordingly, Applicant's claims further distinguish over both Saporito et al. and Brill, III et al. for the reasons noted for Bauer et al. Furthermore, both Brill, III et al. and Saporito et al. appear to teach away from the specific combination of Applicant's steps.

In section 8 of the Office Action, Claim 3 is rejected under 35 U.S.C. §103 as being unpatentable over Bauer et al. Claim 3 called for the method of Claim 1, wherein the linear phased array of ultrasonic transducers are supported on an outside surface of the cylinder component. The Examiner asserted:

With regards to Claim 3, although Bauer et al. does not explicitly teach the linear phased array of ultrasonic transducers are supported on an outside surface of the cylinder component, it would have been obvious to a person of ordinary skill in the art to have readily recognized the advantages and desirability of positioning the transducers on an outside surface of the cylinder component in lieu of the inside surface of the cylinder component since this is a mere design choice of placing the transducers or shift location of part.

In In re: Fitch 972 F2d 1260, 23 USPQ 1780 (CAFC 8/11/92) the Court stated,

Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination ... the mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification ... here the Examiner relied upon hindsight to arrive at the determination of obviousness. It is impermissible to use the claimed invention as an instruction manual or 'template' to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This Court has stated that 'one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.'

Here Bauer et al. neither describes, teaches or shows the features claimed in Applicant's Claim 3. The Examiner is using hindsight and Applicant's own teachings to render the claim obvious, inasmuch as the Examiner admits that Bauer et al. neither describes, teaches or shows the claimed feature. As the Court stated, the reference would have to suggest the feature in order for it to be obvious. In Bauer et al. the reference actually leads one away from this feature. Accordingly, Applicant's claimed feature in Claim 3 should not rightfully be considered obvious in view of Bauer et al.

Therefore, Applicants have shown wherein Applicant's Claims 1-14 are neither described, taught or shown in any of the applied references, either singly, or in combination. Accordingly, reconsideration, allowance and passage to issue of this Application are respectfully requested.

Respectfully submitted,



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